

**T09D01 – 9.1-2 IB Practice MS**

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|-----------|---|----------------------------|-------------------|
| <b>1.</b> | <p>(i) Fe reactant +2 AND Fe product +3 AND Mn product +2;<br/>Mn reactant +7;<br/><i>Do not accept Roman numerals.</i></p> <p>(ii) <math>\text{Fe}^{2+}</math>/iron(ii) ions/ferrous ions;<br/><i>Do not accept "iron".</i></p> <p>(iii) <math>\text{CH}_3\text{OH}</math> oxidation state <math>-2</math>;<br/><math>\text{CH}_2\text{O}</math> oxidation state <math>0</math>;<br/>(change is) oxidation/dehydrogenation;</p>  | <p>2</p> <p>1</p> <p>3</p> | <p><b>[6]</b></p> |
| <b>2.</b> | <p>(i) chlorine/<math>\text{Cl}_2</math> gains electrons and is reduced;<br/>bromide (ions)/<math>\text{Br}^-</math> loses electrons and is oxidized;<br/><i>Award [1] max if no mention of reduced and oxidized.</i></p> <p>(ii) S in <math>\text{SO}_2</math><br/>+4;<br/>S in <math>\text{H}_2\text{SO}_4</math><br/>+6;<br/><i>Award only [1] for 4 + and 6 + or 4 and 6.</i><br/><math>\text{SO}_2</math> oxidized because oxidation number (of sulfur) increases;</p> | <p>2</p> <p>3</p>          | <p><b>[5]</b></p> |
| <b>3.</b> | <p>(i) <math>\text{C}_6\text{H}_8\text{O}_6 \rightarrow \text{C}_6\text{H}_6\text{O}_6 + 2\text{H}^+ + 2\text{e}^-</math>;</p> <p>(ii) <math>\text{C}_6\text{H}_8\text{O}_6 + 2\text{Fe}^{3+} \rightarrow \text{C}_6\text{H}_6\text{O}_6 + 2\text{H}^+ + 2\text{Fe}^{2+}</math>;</p>  | <p>1</p> <p>1</p>          | <p><b>[2]</b></p> |